



CASE STUDY

MODESTO REGIONAL STORMWATER BASIN

Detention Pond Stabilization
Modesto, CA

PROJECT SUMMARY

In the early 2000's, the City of Modesto, CA was rapidly growing, especially on the northeast side. In anticipation of community expansion, the City recognized the need to address stormwater runoff associated with urban development. To maximize available space, a regional stormwater detention basin was incorporated into Ustach Park.

The basin was designed with a forebay and vegetation to retain stormwater and help remove pollutants and sediments from runoff. The basin's side slopes were constructed on a 2:1 slope and seeded. Vegetation did not fully establish on the slopes, resulting in the formation of rills and gullies. Erosion and soil loss resulted in water quality challenges and became a maintenance issue for the City of Modesto Public Works.

In 2011, O'Dell Engineering and Modesto Public Works, sought to implement a reinforced vegetation system to provide long-term erosion control. ARMORMAX® was selected and installed in 2012. The system is composed of Engineered Earth Anchors that are designed and tested for compatibility and performance with PYRAMAT® 75 High Performance Turf Reinforcement Mat (HPTRM). This installation used B1 anchors and incorporated irrigation.



PROBLEM

The City of Modesto needed to stabilize the slopes of a stormwater detention basin with a nature-based system.



SOLUTION

ARMORMAX was used to reinforce vegetation and support groundwater recharge while allowing for mower maintenance.



ARMORMAX®

Engineered Earth Armoring System

PropexGlobal.com/Armormax

FEATURES & BENEFITS

- Superior UV resistance for up to 75 year design life
- Recognized by the Environmental Protection Agency (EPA) as a Best Management Practice (BMP) to improve water quality
- Patented trilobal X3® Fiber Technology helps lock in seeds and promote rapid root mass development
- Promotes infiltration of surface water
- Resistant to both hydraulic and non-hydraulic stresses
- Environmentally-friendly solution for improving groundwater quality and protecting wildlife
- Easy installation equals reduced time and costs

The HPTRM component is engineered to encourage vegetative growth and reinforce root systems to provide long-term erosion control. Additionally, the high tensile strength of the HPTRM can withstand mower and maintenance equipment, allowing Public Works to easily maintain the slopes.

More than a decade after installation, the regional stormwater basin is heavily vegetated and shows no signs of erosion. A small wetland area has formed in the bottom of the basin providing a natural habitat and water quality treatment through filtration.



LONG-TERM PERFORMANCE

More than a decade after installation, the stormwater basin is heavily vegetated, providing a natural solution that easily blends into Ustach Park.



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Visit our website for more information, Product Samples, or other inquiries, or call Customer Service at 800 624 1273

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